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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,569	07/07/2003	Werner Hartel	GR 98 P 8510 D	7487
24131	7590	04/16/2004	EXAMINER	
LERNER AND GREENBERG, PA P O BOX 2480 HOLLYWOOD, FL 33022-2480			KEITH, JACK W	
			ART UNIT	PAPER NUMBER

3641

DATE MAILED: 04/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/614,569

Applicant(s)

HARTEL ET AL.

Examiner

Jack W. Keith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/7/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of species A in the Paper of 2/5/2004 is acknowledged.
2. Claim 8 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) is being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the Paper of 2/5/2004.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 1 there appears to be an essential step missing. Partially filling the accumulator followed by supping heat to the upper region of the accumulator. By the claim language the accumulator can be partially filled, for instance less than half full. Thus no heat would be applied to said fluid in the upper region of the accumulator. It appears that the fill level of the accumulator and the heater location are critical to applicant's inventive concept.

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Again regarding claim 1 the phrase "during a standby mode" appears to be inconsistent with the accepted terminology within the art. That is the pressure accumulator is set up prior to plant operations, wherein the steps of generating and maintaining a pressure within the accumulator are established before reactor startup. In the event of an emergency this then allows the pressure accumulator to act, suppressing the event.

The phrase "standby mode" further is not enabled by the specification as no time is associated with said mode of operation. Thus a pressurizer for a pressurized water reactor reads on the claim language.

5. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for fluid liquid, does not reasonably provide enablement for fluid gas. Thus the claims are broader in scope than the enabling disclosure. Fluid reading on a gas or a liquid.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. Regarding claim 1 - the term "partially filled" in association with the term "fluid" is vague and indefinite. This is based on the next method step wherein the fluid

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in the upper region of the pressure accumulator is heated. Thus, "partially filled" must be greater than half the volume of the accumulator.

B. Regarding claim 1 - the term "standby mode" in association with accumulator is vague and indefinite. That is no time limit is associated with said mode of operation. As pointed out above a pressurizer for a PWR reads on the claim language. Applicant further in the specification refers to the standby mode as being during normal operations. Standby mode and normal operation are not the same in the nuclear art. Thus the meets and bounds of the claim cannot be ascertained.

C. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are the fill level of the fluid in the accumulator. Per the claim language the fill level needs to be at least more than half the level of the accumulator.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Murase et al (4,859,401).

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Murase discloses applicant's inventive concept. Referring to figure 17 Murase discloses a closed vessel (32) containing a fluid (34) and extending along a center axis having a lower and upper region and a perpendicular heater (42) disposed in the upper region having a heating capacity such that in the upper region the fluid can be evaporated to maintain a pressure of 20-65 ata in the upper region of the closed vessel.

Note that from figure 17 one can clearly see that the upper region including the heater is approximately 10-30% of the total volume of the closed vessel. Thus heat is supplied to the upper region of the accumulator.

Referring to the vessel of Murase (column 13, lines 20-23) refers to the combination of combination of the core cooling structure of the Murase invention and the conventional core cooling structure. The conventional core cooling structure (columns 7 and 8, lines 65-19) discloses the vessel (32) as having a volume of  $40\text{m}^3$  90% being filled with cooling water. Thus the vessel is partially filled at the onset. With regard to the non-condensable gas addition Murase sets forth that the known prior art systems (figure 12) utilizes said gas.

Note further that the system of Murase is in a standby mode of operation. That is it activates upon the initiation of an emergency situation.

While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

See figure 17; column 9, lines 20+; column 11, lines 24-26 and column 13, lines 17+.

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10. Claims 1, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Admitted prior art (see specification page 1-3).

The prior art sets forth a system wherein a pressure accumulator is partially filled with fluid (liquid) and non-condensable gas. A heater heating the fluid. Note that fluid reads on both the gas and the liquid. The prior art further sets forth that such systems are well known to be utilized in driving control rods.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murase ('401) as applied to claims 1-6 above, and further in view of the admitted prior art (see specification page 1-3).

As discussed above Murase discloses applicant's inventive concept. However, Murase does not set forth his pressure accumulator system being utilized drive control rods.

Applicant admits that it is well known within the nuclear art to utilize pressure accumulators to drive control rod mechanisms. Clearly, modification of Murase to have included these known teachings would have been obvious to one having ordinary skill in the art at the time the invention was made as such results are in no more than the

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combination of conventionally known reactor safety systems available within the nuclear art.

**Conclusion**

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack W. Keith whose telephone number is (703) 306-5752. The examiner can normally be reached on Monday-Thursday 6:30-5 p.m., with Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on (703) 306-4198. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jack W. Keith  
Primary Examiner  
Art Unit 3641

jwk  
April 14, 2004